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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Clemens Jung

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EXAMINER

OLSEN, LIN B

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/567,506	Applicant(s) JUNG ET AL.	
	Examiner LIN B. OLSEN	Art Unit 3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-16 and 18-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-16 and 18-28 is/are rejected.
- 7) ☒ Claim(s) 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 August 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to the filing on July 10, 2009 of an IDS and filing on August 25, 2009 of a response to the Office Action of March 27, 2009. The application current contains 17 claims with claim 11 being independent.

Response to Amendment

The amendments to the specification have been entered. The objection to the disclosure has been withdrawn.

The amended Figure 2 has been entered. The objection to the coordination of description and drawings has been withdrawn.

Claim Objections

Claim 18 is objected to because of the following informalities: The claim was incorrectly identified as "Previously Presented" when it was in fact "Currently Amended". The claim is being examined as amended.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims **14, 15, 16, 18, 21, 25, 26, 27 and 28** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims **14, 15, 16, 18, 21, 25, 26, 27 and 28**, which all depend on claim 11, are rejected as being indefinite under 35 USC 112 second paragraph or alternately are objected to as not further delimiting the parent claim because claim 11 only requires *an*

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access detection device includes at least one of: (i) a camera used with a software module for image detection, (ii) at least one video sensor, (iii) a radar sensor device, (iv) at least one depth sensor, and (v) at least one first microphone to detect a spoken command from one of the vehicle occupants. For those instances when, for instance, the access detection device selected is a radar sensor device, the recital of claim 14 that “*at least one video sensor is part of a video sensor system having an image-detection range that includes at least a driver seat and a front-seat passenger seat.*” has no further delimiting effect on the parent claim as being interpreted and causes the reader to wonder whether a video sensor is required rather than is one single optional access detection device. Each of the rejected causes this confusion. The Examiner notes however, that both claims 19 and 20 clarify that the further limitation is effective only when a particular option is selected as the access detection device.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims **11-13 and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 7,194, 346 to Griffin et al. (Griffin) in light of Japanese Patent Publication Number JP2002133401 to Tokai Rika Co. Ltd, first inventor Otaki Kiyokazu (Kiyokazu). Griffin is concerned with an occupant detection and discrimination system for a vehicle, usable not only for direct safety accessories but for operational system

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limitations. Kiyokazu is concerned with discriminating which occupant of a vehicle is controlling a device controller.

Regarding independent **claim 11, A vehicle system for operation in a motor vehicle, comprising:**

an operator control for operating the vehicle system; - In Griffin Fig. 1, element 44 is identified at col. 3 line 4 as a driver interface panel.

a controller unit operatively connected to the operator control, wherein the controller unit influences operation of the vehicle system requested by the operator control; and – at Griffin col. 3 lines 4-6, the panel is connected to a HVAC control or multi-media control for operator interaction.

an access detection device for determining which vehicle occupant is accessing the operator control, the vehicle occupants including at least one of a driver and a passive front-seat passenger; - Griffin Col. 3, lines 5-23 describes how the unique frequencies transmitted by occupied seats are at a background level at the operator panel until an occupant of the vehicle tries to interact with the interface. Then, that occupant's signal is stronger than the others because of the touch, so that the microcomputer connected to the interface can identify who is interacting with the interface.

wherein the controller unit influences operation of the vehicle system requested by the operator control at least depending on which one of vehicle occupants is accessing the operator control; - Griffin col. 3 lines 13-16, when the

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access detection device detects driver interaction, limited functionality is enabled. Lines 20-24, expanded functionality enabled for passenger interaction.

wherein the access detection device includes at least one of: (i) a camera used with a software module for image detection, (ii) at least one video sensor, (iii) a radar sensor device, (iv) at least one depth sensor, and (v) at least one first microphone to detect a spoken command from one of the vehicle occupants. –

Griffin uses a receiver sensor to distinguish the interacting occupant, not one of the technologies listed above; however, Kiyokazu, developing in the same general area, control of devices mounted in vehicles, uses cameras to distinguish which occupant has interacted with the interface. It would have been obvious to one of ordinary skill in the art at the time of the invention to perform the simple substitution of the known camera element for the known receiver element to obtain the same predictable result - distinguishing between occupants interacting with a user interface.

Regarding **claim 12, The vehicle system as recited in Claim 11, further comprising:**

a motion detection device for determining a motion status of the motor vehicle, wherein the controller unit influences operation of the vehicle system requested by the operator control additionally as a function of a detected motion status of the vehicle. – Griffin col. 3 line 13-14, "If the received signal is that of the driver transmitter 20, and the vehicle is moving, microcontroller 30 can signal the relevant modules 34, 36, 38, 40 to enable only limited or specified functionality"

Regarding **claim 13, The vehicle system as recited in Claim 11, wherein the controller unit limits at least some operations of the vehicle system requested by the operator control if it is determined that the vehicle is in motion and the operator control is being accessed by the vehicle driver.** – Griffin col. 3 line 13-14, "If the received signal is that of the driver transmitter 20, and the vehicle is moving, microcontroller 30 can signal the relevant modules 34, 36, 38, 40 to enable only limited or specified functionality"

Regarding **claim 26, The vehicle system as recited in Claim 11, wherein the software module uses an image detection algorithm to make an image pattern comparison.** – Kiyokazu says in the abstract that the image is enhanced, erased and extracted to form a pattern that can be discriminated as an arm of either the passenger or driver (see Fig. 12b).

Claims **14-16, 21 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Griffin/Kiyokazu as applied to claim 11 above, and further in view of U.S. Patent No. 5,983,147 to Krumm (Krumm). Krumm is also concerned with vehicle occupant detection and classification.

Regarding **claim 14, The vehicle system as recited in Claim 13, wherein the at least one video sensor is part of a video sensor system having an image-detection range that includes at least a driver seat and a front-seat passenger**

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seat. – While Griffin does not use a video system to identify the position of the vehicle occupants, and Kiyokazu only focuses on the area between the driver and the front seat passenger, Krumm teaches taking a video of the front seat to see how the seat is occupied. It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute Krumm's video sensors for the frequency transmitters/receivers used in Griffin to obtain the predictable result of determining whether a passenger was in the front seat.

Regarding **claim 15, The vehicle system as recited in Claim 14, wherein the at least one video sensor is a stereo or multi-camera video sensor.** - While Griffin does not use a video system to identify the position of the vehicle occupants, and Kiyokazu only focuses on the area between the driver and the front seat passenger. As shown in Krumm Fig. 4, Krumm uses multiple cameras to detect the passenger.

Regarding **claim 16, The vehicle system as recited in Claim 15, wherein the access detection device takes into consideration the gray-scale value information contained in detected signals, in determining which one of the vehicle occupants is accessing the operator control.** – As discussed at Krumm col. 3 lines 48-50, Krumm uses gray scale levels in determining the position of the occupants.

Regarding **claim 21, The vehicle system as recited in Claim 11, further comprising:**

a motion detection device for determining a motion status of the motor vehicle, wherein the controller unit influences operation of the vehicle system requested by the operator control additionally as a function of a detected motion status of the vehicle; - – Griffin col. 3 line 13-14, "If the received signal is that of the driver transmitter 20, and the vehicle is moving, microcontroller 30 can signal the relevant modules 34, 36, 38, 40 to enable only limited or specified functionality"

wherein the controller unit limits at least some operations of the vehicle system requested by the operator control if it is determined that the vehicle is in motion and the operator control is being accessed by the vehicle driver, - – Griffin col. 3 line 13-14, "If the received signal is that of the driver transmitter 20, and the vehicle is moving, microcontroller 30 can signal the relevant modules 34, 36, 38, 40 to enable only limited or specified functionality"

wherein at least one video sensor is part of a video sensor system having an image-detection range that includes at least a driver seat and a front-seat passenger seat, and - Krumm teaches taking a video of the front seat to see how the seat is occupied. It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute Krumm's video sensors for the frequency transmitters/receivers used in Griffin to obtain the predictable result of determining the condition of a passenger was in the front seat while also monitoring the driver.

wherein the at least one video sensor is a stereo or multi-camera video sensor, - As shown in Krumm Fig. 4, Krumm uses multiple cameras to detect the passenger.

wherein the access detection device takes into consideration the gray-scale value information contained in detected signals, in determining which one of the vehicle occupants is accessing the operator control. - Krumm in col. 3 lines 45-47 uses gray level mapping to improve the recognition of the cameras.

Regarding **claim 25, The vehicle system as recited in Claim 11, wherein the software module makes an image pattern comparison by comparing a previously recorded image to a current image taken while the vehicle system is being accessed.** – Krumm col. 3 starting at line 51 describes Fig. 3 which shows the processing done to previously taken images to form the recorded images against which current images are compared.

Claims **22-24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Griffin/Kiyokazu/Krumm as applied to claim 21 above, and further in view of Applicant's acknowledged well known art.

Regarding **claim 22, The vehicle system as recited in Claim 21, wherein the access detection device includes a radar sensor device, and wherein the access detection device includes at least one depth sensor which utilizes the propagation time principle for detection.** - Griffin/Kiyokazu/Krumm has described access detection devices using either IR sensors or cameras. Applicant's specification at Para's [0028 and 0029] describes radar sensor systems using depth sensors using the propagation time principle as "abundantly known from the related art". It would have

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been obvious to one of ordinary skill in the art at the time of the invention to incorporate such sensors into the system of Griffin/Kiyokazu/Krumm as a back-up to the sensors described to apply a known technique to a known device that was ready for improvement of increased reliability of the detection.

Regarding **claim 23, The vehicle system as recited in Claim 21, wherein the access detection device includes a radar sensor device, and wherein the access detection device includes at least one depth sensor which utilizes the laser scanner principle for detection.** - Griffin/Kiyokazu/Krumm has described access detection devices using either IR sensors or cameras. Applicant's specification at Para's [0028 and 0029] describes radar sensor systems using depth sensors utilizing the laser scanner principle as "abundantly known from the related art". It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate such sensors into the system of Griffin/Kiyokazu/Krumm as a back-up to the sensors described to apply a known technique to a known device that was ready for improvement of increased reliability of the detection.

Regarding **claim 24, The vehicle system as recited in Claim 21, wherein the access detection device includes a radar sensor device, and wherein the access detection device includes at least one depth sensor which utilizes the structured lighting principle for detection.** 0 Griffin/Kiyokazu/Krumm has described access detection devices using either IR sensors or cameras. Applicant's specification at Para

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[0026] describes the evaluation of stereo or multichannel video using the principle of structured light as “described in detail in the related art”. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate such analysis into the system of Griffin/Kiyokazu/Krumm as a back-up to the sensors described to apply a known technique to a known device that was ready for improvement of increased reliability of the detection.

Claims **18-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Griffin/Kiyokazu as applied to claim 13 above, and further in view of U.S. Patent No. 7,295,123 to Engelberg et al. (Engelberg). Engelberg is concerned with detecting a person in a space.

Regarding **claim 18, The vehicle system as recited in Claim 13, wherein the at least one depth sensor utilizes the propagation time principle for detection.**

Kiyokazu uses cameras to analyze the image captured, but does not emphasize the depth of the sensor used. Engelberg, on the other hand uses, suggests the use of many types of sensors, and concentrates on their use as depth sensor, with the processing that implies. It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the known element of Engelberg’s depth analysis of images for the known analysis of Kiyokazu to obtain the same predictable result. Engelberg at col. 3 line 47 suggests analyzing the image by transit-time principle.

Regarding **claim 19, The vehicle system as recited in Claim 13, wherein the access detection device includes at least one depth sensor which utilizes the laser scanner principle for detection.** – Engelberg at col. 3 line 48 suggests analyzing the image via the laser scanner principle.

Regarding **claim 20, The vehicle system as recited in Claim 13, wherein the access detection device includes at least one depth sensor which utilizes the structured lighting principle for detection.** – Engelberg at col. 3 line 48 suggests analyzing the image via structured lighting principle.

Claims **27-28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Griffin/Kiyokazu as applied to claim 11 above, and further in view of U.S. Patent No. 6,748,088 to Schaaf (Schaaf). Schaaf is concerned with using a microphone system in a vehicle to supply better vocal quality to a mobile telephone, to operator interfaces and to supply a head position to an airbag trigger device.

Regarding **claim 27, The vehicle system as recited in Claim 11, wherein an at least one second microphone is installed spatially separated from the first microphone to detect whether a voice command sequence has been given by the driver or the front-seat passenger.** - Neither Griffin nor Kiyokazu supports voice commands. However, the mechanisms that they support once the identification of who is activating the operator interface do not preclude discriminating based on voice commands. Schaaf teaches that multiple microphones in a vehicle allow discrimination

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of the virtual microphone location (col. 2 lines 9-11, and lines 40-43). It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the spatial position of voice source output for the discrimination output of the devices of Griffin or Kiyokazu with the same predictable result.

Regarding **claim 28, The vehicle system as recited in Claim 27, wherein a first signal emitted from the first microphone and a second signal emitted from the second microphone are supplied to the software module which uses the propagation time principle to determine whether the voice command sequence has been given by the driver or the front-seat passenger.** – See Schaaf – col. 3 lines 40-49.

Response to Arguments

Applicant's arguments with respect to claims 11-16 and 18-24 have been considered but are moot in view of the new ground(s) of rejection.

Applicant has requested that the Examiner provide specific evidence of support any Official Notice assertions in the previous rejection. The Examiner does not believe any Official Notice asserts were made in the previous rejection, but will reply to specific cases that applicants may point out.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See the attached form PTO-892 for further references considered relevant. .

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. In particular, applicant amended Claim 11 so that the access detection device needed to determine which occupant is accessing the operator control, rather than allowing a process of elimination to be used. Further, the amendments to Claim 1, limited the types of detection device that were covered. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LIN B. OLSEN whose telephone number is (571)272-9754. The examiner can normally be reached on Mon - Fri, 8:30 -5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on 571-272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lin B Olsen/
Examiner, Art Unit 3661

/Thomas G. Black/

Supervisory Patent Examiner, Art Unit 3661